Appendix H
Soils

RUSLE Related Attributes

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Unit Symbol and Map Unit Name	% Composition	Component	Hydrologic Group	Kw	T Factor	Representative Value		
						% Sand	% Silt	% Clay
23A: Camas-newberg-evans complex, 0 to 3 percent slopes	40	Camas	A	.10	2	68.5	24.0	7.5
	30	Newberg	B	.28	3	62.8	26.2	11.0
	19	Evans	B	.32	5	44.3	40.7	15.0
63E: Freezener gravelly loam, 12 to 35 percent north slopes	85	Freezener	B	.20	5	39.2	37.3	23.5
64E: Freezener gravelly loam, 12 to 35 percent south slopes	85	Freezener	B	.20	5	39.2	37.3	23.5
66E: Freezener-geppert complex, 12 to 35 percent north slopes	65	Freezener	B	.20	5	39.2	37.3	23.5
	30	Geppert	C	.10	3	39.8	37.7	22.5
66G: Freezener-geppert complex, 35 to 60 percent north slopes	65	Freezener	B	.20	5	39.2	37.3	23.5
	27	Geppert	C	.10	3	39.8	37.7	22.5
67G: Freezener-geppert complex, 35 to 60 percent south slopes	65	Freezener	B	.20	5	39.2	37.3	23.5
	27	Geppert	C	.10	3	39.8	37.7	22.5
111G: Mcmullin-mcnull gravelly loams, 35 to 60 percent south slopes	60	Mcmullin	D	.17	1	42.1	37.9	20.0
	25	Mcnull	C	.17	3	39.2	37.3	23.5

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RUSLE Related Attributes - Continued

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Unit Symbol and Map Unit Name	% Composition	Component	Hydrologic Group	Kw	T Factor	Representative Value		
						% Sand	% Silt	% Clay
113E: Mcmullin-rock outcrop complex, 3 to 35 percent slopes	60	Mcmullin	D	.17	1	42.1	37.9	20.0
	25	Rock Outcrop	---	---	---	---	---	---
113G: Mcmullin-rock outcrop complex, 35 to 60 percent slopes	60	Mcmullin	D	.17	1	42.1	37.9	20.0
	29	Rock Outcrop	---	---	---	---	---	---
114E: Mcnull loam, 12 to 35 percent north slopes	80	Mcnull	C	.24	3	39.2	37.3	23.5
114G: Mcnull loam, 35 to 60 percent north slopes	80	Mcnull	C	.24	3	39.2	37.3	23.5
115E: Mcnull gravelly loam, 12 to 35 percent south slopes	80	Mcnull	C	.17	3	39.2	37.3	23.5
115G: Mcnull gravelly loam, 35 to 60 percent south slopes	80	Mcnull	C	.17	3	39.2	37.3	23.5
116E: Mcnull-mcmullin gravelly loams, 12 to 35 percent south slopes	55	Mcnull	C	.17	3	39.2	37.3	23.5
	30	Mcmullin	D	.17	1	42.1	37.9	20.0
116G: Mcnull-mcmullin gravelly loams, 35 to 60 percent south slopes	55	Mcnull	C	.17	3	39.2	37.3	23.5
	30	Mcmullin	D	.17	1	42.1	37.9	20.0

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RUSLE Related Attributes - Continued

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Unit Symbol and Map Unit Name	% Composition	Component	Hydrologic Group	Kw	T Factor	Representative Value		
						% Sand	% Silt	% Clay
117G: Mcnull-mcmullin complex, 35 to 60 percent north slopes	55	Mcnull	C	.24	3	39.2	37.3	23.5
	30	Mcmullin	D	.17	1	42.1	37.9	20.0
118E: Mcnull-medco complex, 12 to 50 percent slopes	55	Mcnull	C	.17	3	39.2	37.3	23.5
	35	Medco	D	.10	3	35.4	33.6	31.0
119F: Mcnull-medco complex, high precipitation, 12 to 50 percent slopes	50	Mcnull	C	.24	3	39.2	37.3	23.5
	35	Medco	D	.24	3	35.4	33.6	31.0
124F: Medco clay loam, high precipitation, 12 to 50 percent south slopes	80	Medco	D	.28	3	35.4	33.6	31.0
125F: Medco-mcmullin complex, 12 to 50 percent slopes	50	Medco	D	.10	3	35.4	33.6	31.0
	30	Mcmullin	D	.17	1	42.1	37.9	20.0
126F: Medco-mcnull complex, 12 to 50 percent slopes	55	Medco	D	.10	3	35.4	33.6	31.0
	30	Mcnull	C	.24	3	39.2	37.3	23.5
163A: Sevenoaks loamy sand, 0 to 3 percent slopes	85	Sevenoaks	A	.05	5	81.1	16.4	2.5
183E: Straight extremely gravelly loam, 12 to 35 percent south slopes	80	Straight	C	.05	3	39.8	37.7	22.5

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RUSLE Related Attributes - Continued

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Unit Symbol and Map Unit Name	% Composition	Component	Hydrologic Group	Kw	T Factor	Representative Value		
						% Sand	% Silt	% Clay
184G: Straight-shippa extremely gravelly loams, 35 to 70 percent north slopes	60	Straight	C	.05	3	39.8	37.7	22.5
	20	Shippa	D	.05	1	39.8	37.7	22.5
185G: Straight-shippa extremely gravelly loams, 35 to 60 percent south slopes	55	Straight	C	.05	3	39.8	37.7	22.5
	25	Shippa	D	.05	1	39.8	37.7	22.5
187A: Takilma cobbly loam, 0 to 3 percent slopes	85	Takilma	B	.17	5	42.7	38.3	19.0

Timbered Rock EIS
Soils Concerns on BLM Administered Lands

Soil #	Soil Name	Hydro Logic Group see end of table	Ordination Symbol defined end of table	Erosion Hazard see end of table	Equipment Limitations	Seedling Mortality Concerns	Wind Throw Hazard	High Burn Severity Acres	Low Burn Severity Acres	Mod Burn Severity Acres	Very Low Burn Severity Acres	Total
23A	**Camas-Newberg-Evans Complex,** 0 To 3 Percent Slopes	A + B	11S	Slight	Slight	Mod	Slight		4	2	3	9
63E	**Freezener Gravelly Loam,** 12 To 35 Percent North Slopes	B	10R	Slight	Mod	Slight	Slight	57	47	52	85	241
64E	**Freezener Gravelly Loam,** 12 To 35 Percent South Slopes	B	8R	Slight	Mod	Mod	Slight	35	149	55	169	407
66E	**Freezener-Geppert Complex,** 12 To 35 Percent North Slopes	B + C	6F + 10R	Slight	Mod	Slight - Mod	Slight - Mod	8	1	17		26
66G	**Freezener-Geppert Complex,** 35 To 60 Percent North Slopes	B + C	6F + 10R	Mod	Severe	Slight - Mod	Slight - Mod	254	223	236	258	972
67G	**Freezener-Geppert Complex,** 35 To 60 Percent South Slopes	B + C	10R	Mod	Severe	Severe	Slight - Mod	131	464	283	394	1272
111G	**Mcmullin-Mcnull Gravelly Loams,** 35 To 60 Percent South Slopes	C +D	6R	Mod	Severe	Severe	Mod		40	66	2	107
113E	**Mcmullin Rock Outcrops,** 3- 35 Percent Slopes	Not Rated By The Natural Resources Conservation Service							16	10	1	28
113G	**Mcmullin Rock Outcrops,** 35 - 60 Percent Slopes	Not Rated By The Natural Resources Conservation Service						42	292	341	109	784
114E	**Mcnull Loam,** 12 To 35 Percent North Slopes	C	6D	Mod	Mod	Slight	Mod	5	16	18	1	40
114G	**Mcnull Loam,** 35 To 60 Percent North Slopes	C	6R	Mod	Severe	Slight	Mod	2	88	49	114	253
115E	**Mcnull Gravelly Loam,** 12 To 35 Percent South Slopes	C	6R	Mod	Mod	Mod	Mod		11	9	12	32
115G	**Mcnull Gravelly Loam,** 35 To 60 Percent South Slopes	C	6R	Mod	Severe	Severe	Mod		16	23		39
116E	**Mcnull-Mcmullin Gravelly Loams,** 12 To 35 Percent South Slopes	C + D	6R	Mod	Mod	Mod	Mod	20	1	5		26
116G	**Mcnull-Mcmullin Gravelly Loams,** 35 To 60 Percent South Slopes	C + D	6R	Mod	Severe	Severe	Mod	14	14	20	15	63
117G	**Mcnull-Mcmullin Complex,** 35 To 60 Percent North Slopes	C + D	6R	Mod	Severe	Slight	Mod	13	24	20	47	104
118E	**Mcnull-Medco Complex,** 12 To 50 Percent Slopes	C + D	6R	Mod	Mod	Mod	Mod	0	40	9	7	56

Timbered Rock EIS
Soils Concerns on BLM Administered Lands

Soil #	Soil Name	Hydro Logic Group see end of table	Ordination Symbol defined end of table	Erosion Hazard see end of table	Equipment Limitations	Seedling Mortality Concerns	Wind Throw Hazard	High Burn Severity Acres	Low Burn Severity Acres	Mod Burn Severity Acres	Very Low Burn Severity Acres	Total
119F	**Mcnull-Medco Complex,** High pptn, 12 To 50 Percent Slopes	C + D	5W + 6R	Mod	Mod - Severe	Mod	Mod - Severe	2	29	14	6	51
124F	**Medco Clay Loam,** High pptn, 12 To 50 Percent South Slopes	D	5W	Mod	Severe	Mod	Severe			9	0	10
125F	**Medco-Mcmullin Complex,** 12 To 50 Percent Slopes	Not Rated By The Natural Resources Conservation Service							2	1		3
126F	**Medco-Mcnull Complex,** 12 To 50 Percent Slopes	C + D	6R	Mod	Mod	Mod	Mod	0	60	34	10	104
163A	**Sevenoaks Loamy Sand,** 0 To 3 Percent Slopes	Not Rated By The Natural Resources Conservation Service									0	0
183E	**Straight Extremely Gravelly Loam,** 12 To 35 Percent South Slopes	C	9F	Slight	Mod	Severe	Mod	9	110	23	79	221
184G	**Straight-Shippa Extremely Gravelly Loams,** 35 To 70 Percent North Slopes	C + D	9R	Mod	Severe	Mod	Mod - Severe	210	1121	695	1131	3156
185G	**Straight-Shippa Extremely Gravelly Loams,** 35 To 60 Percent South Slopes	C + D	9R	Mod	Severe	Severe	Mod - Severe	185	1358	700	1274	3517
187A	**Takilma Cobbly Loam,** 0 To 3 Percent Slopes	Not Rated By The Natural Resources Conservation Service									0	0
							Total Acres	986	4121	2693	3718	11518
							Percents	9	36	23	32	100

Ordination Symbol Consists Of Two Parts, A Number And A Letter.

The Number Refers To Productivity Class

I.E., Potential Productivity In Terms Of Cubic Meters Of Wood Per Hectare Per Year For Pines Or Firs.

The Letter Is An Indicator Of Potential Problems As Defined

D	Restricted Rooting Depth	W	Excessive Wetness
F	Fragmental Or Skeletal Soils	S	Sandy
R	Relief Or Slope Steepness		

Erosion Hazard Relates To The Ease Of Detachment And Movement Of Soil And Rock Particles, It Is Not Meant To Imply That This Material Has Entered The Aquatic Environment, But Rather The Colluvial Environment Where It Could Remain For Years To Millennia. Almost All Soils On Hillslopes Form In Colluvium.

Hydrologic Group - Used To Estimate Runoff From Precipitation When Soils Are Thouroghly Wet And Vegetative Cover Is Removed.

A = High Infiltration Rate, D = Very Slow Infiltration Rate

Table FOR-5. - Forestland Management

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

The information in this table indicates the dominant soil condition, but does not eliminate the need for onsite investigation. The numbers in the value column range from 0.01 to 1.00. The larger the value, the greater the potential limitation. Limiting features in this report are limited to the top 5 limitations. Additional limitations may exist.

Map Symbol and Soil Name	Pct of Map Unit	Potential for Damage to Soil by Fire		Potential for Seedling Mortality	
		Rating Class and Limiting Features	Value	Rating Class and Limiting Features	Value
23A:					
Camas	40	Low		Low	
		Texture/coarse fragments	0.10		
Newberg	30	Low		Low	
		Texture/coarse fragments	0.10		
Evans	19	Low		Low	
		Texture/coarse fragments	0.10		
63E:					
Freezener	85	Low		Low	
		Texture/coarse fragments	0.10		
64E:					
Freezener	85	Low		Low	
		Texture/coarse fragments	0.10		
66E:					
Freezener	65	Low		Low	
		Texture/coarse fragments	0.10		
Geppert	30	Low		Low	
		Texture/coarse fragments	0.10		
66G:					
Freezener	65	Low		Low	
		Texture/coarse fragments	0.10		
Geppert	27	Low		Low	
		Texture/coarse fragments	0.10		
67G:					
Freezener	65	Low		Low	
		Texture/coarse fragments	0.10		
Geppert	27	Moderate		Low	
		Texture/coarse fragments	0.50		

Table FOR-5. - Forestland Management - Continued

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Symbol and Soil Name	Pct of Map Unit	Potential for Damage to Soil by Fire		Potential for Seedling Mortality	
		Rating Class and Limiting Features	Value	Rating Class and Limiting Features	Value
111G:					
Mcmullin	60	Low		Low	
Mcnull	25	Low		Low	
113E:					
Mcmullin	60	Low		Low	
		Texture/coarse fragments	0.10		
Rock Outcrop	25	High		High	
		Horizon table contains no data	1.00	Horizon table contains no data	1.00
		Texture/coarse fragments	1.00	Soil reaction	1.00
		Texture/surface depth/coarse fragments	1.00		
113G:					
Mcmullin	60	Low		Low	
Rock Outcrop	29	High		High	
		Horizon table contains no data	1.00	Horizon table contains no data	1.00
		Texture/coarse fragments	1.00	Soil reaction	1.00
		Texture/surface depth/coarse fragments	1.00		
114E:					
Mcnull	80	Low		Low	
		Texture/coarse fragments	0.10		
114G:					
Mcnull	80	Low		Low	
		Texture/slope/coarse fragments	0.10		
115E:					
Mcnull	80	Low		Low	
		Texture/coarse fragments	0.10		
115G:					
Mcnull	80	Low		Low	
116E:					

Table FOR-5. - Forestland Management - Continued

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Symbol and Soil Name	Pct of Map Unit	Potential for Damage to Soil by Fire		Potential for Seedling Mortality	
		Rating Class and Limiting Features	Value	Rating Class and Limiting Features	Value
116E:					
Mcnull	55	Low		Low	
		Texture/coarse fragments	0.10		
Mcmullin	30	Low		Low	
		Texture/coarse fragments	0.10		
116G:					
Mcnull	55	Low		Low	
Mcmullin	30	Low		Low	
117G:					
Mcnull	55	Low		Low	
		Texture/slope/coarse fragments	0.10		
Mcmullin	30	Low		Low	
118E:					
Mcnull	55	Low		Low	
Medco	35	Low		High	
				Wetness	1.00
119F:					
Mcnull	50	Low		Low	
Medco	35	Low		High	
				Wetness	1.00
124F:					
Medco	80	Low		High	
				Wetness	1.00
125F:					
Medco	50	Low		High	
				Wetness	1.00
Mcmullin	30	Low		Low	
126F:					
Medco	55	Low		High	
				Wetness	1.00
Mcnull	30	Low		Low	
163A:					

Table FOR-5. - Forestland Management - Continued

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Symbol and Soil Name	Pct of Map Unit	Potential for Damage to Soil by Fire		Potential for Seedling Mortality	
		Rating Class and Limiting Features	Value	Rating Class and Limiting Features	Value
163A:					
Sevenoaks	85	Moderate		Low	
		Texture/coarse fragments	0.50		
183E:					
Straight	80	Moderate		Low	
		Texture/coarse fragments	0.50		
184G:					
Straight	60	Moderate		Low	
		Texture/coarse fragments	0.50		
Shippa	20	Moderate		Low	
		Texture/slope/surface depth/coarse fragments	0.50		
185G:					
Straight	55	Moderate		Low	
		Texture/coarse fragments	0.50		
Shippa	25	High		Low	
		Texture/slope/surface depth/coarse fragments	1.00		
187A:					
Takilma	85	Low		Low	
		Texture/coarse fragments	0.10		

Table J1b. - Physical Properties of the Soils

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Entries under "Erosion Factors--T" apply to the entire profile. Entries under "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.

Map Symbol and Soil Name	Depth	Sand	Silt	Clay	Moist Bulk Density	Permeability (Ksat)	Available Water Capacity	Linear Extensibility	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/Hr	In/In	Pct	Pct					
23A:														
Camas	0-10	---	---	5-10	1.30-1.50	2-6	0.07-0.09	0.0-2.9	1.0-3.0	.10	.20	2	3	86
	10-60	---	---	0-5	1.40-1.60	20-100	0.03-0.05	0.0-2.9	0.0-1.0	.02	.10			
Newberg	0-17	---	---	7-15	1.20-1.40	2-6	0.12-0.15	0.0-2.9	2.0-4.0	.28	.28	3	3	86
	17-30	---	---	5-15	1.20-1.40	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.24	.28			
	30-60	---	---	2-10	1.20-1.40	6-20	0.09-0.13	0.0-2.9	0.2-1.0	.10	.20			
Evans	0-38	---	---	12-18	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	2.0-5.0	.32	.32	5	5	56
	38-60	---	---	10-18	1.40-1.55	0.6-2	0.13-0.23	0.0-2.9	0.1-2.0	.43	.43			
63E:														
Freezener	0-9	---	---	20-27	1.20-1.30	0.6-2	0.13-0.16	0.0-2.9	2.0-4.0	.20	.28	5	7	38
	9-18	---	---	27-45	1.20-1.30	0.6-2	0.18-0.21	0.0-2.9	1.0-3.0	.28	.28			
	18-60	---	---	35-50	1.20-1.40	0.2-0.6	0.13-0.16	3.0-5.9	0.5-1.0	.28	.37			
64E:														
Freezener	0-9	---	---	20-27	1.20-1.30	0.6-2	0.13-0.16	0.0-2.9	2.0-4.0	.20	.28	5	7	38
	9-18	---	---	27-45	1.20-1.30	0.6-2	0.18-0.21	0.0-2.9	1.0-3.0	.28	.28			
	18-60	---	---	35-50	1.20-1.40	0.2-0.6	0.13-0.16	3.0-5.9	0.5-1.0	.28	.37			
66E:														
Freezener	0-9	---	---	20-27	1.20-1.30	0.6-2	0.13-0.16	0.0-2.9	2.0-4.0	.20	.28	5	7	38
	9-18	---	---	27-45	1.20-1.30	0.6-2	0.18-0.21	0.0-2.9	1.0-3.0	.28	.28			
	18-60	---	---	35-50	1.20-1.40	0.2-0.6	0.13-0.16	3.0-5.9	0.5-1.0	.28	.37			
Geppert	0-13	---	---	18-27	1.35-1.50	0.6-2	0.09-0.12	0.0-2.9	2.0-4.0	.10	.37	3	8	0
	13-30	---	---	20-35	1.30-1.40	0.6-2	0.04-0.07	0.0-2.9	0.5-2.0	.10	.37			
	30-40	---	---	---	---	---	---	---	---	---	---			
66G:														

Table J1b. - Physical Properties of the Soils - Continued

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Symbol and Soil Name	Depth	Sand	Silt	Clay	Moist Bulk Density	Permeability (Ksat)	Available Water Capacity	Linear Extensibility	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/Hr	In/In	Pct	Pct					
66G:														
Freezener	0-9	---	---	20-27	1.20-1.30	0.6-2	0.13-0.16	0.0-2.9	2.0-4.0	.20	.28	5	7	38
	9-18	---	---	27-45	1.20-1.30	0.6-2	0.18-0.21	0.0-2.9	1.0-3.0	.28	.28			
	18-60	---	---	35-50	1.20-1.40	0.2-0.6	0.13-0.16	3.0-5.9	0.5-1.0	.28	.37			
Geppert	0-13	---	---	18-27	1.35-1.50	0.6-2	0.09-0.12	0.0-2.9	2.0-4.0	.10	.37	3	8	0
	13-30	---	---	20-35	1.30-1.40	0.6-2	0.04-0.07	0.0-2.9	0.5-2.0	.10	.37			
	30-40	---	---	---	---	---	---	---	---	---	---			
67G:														
Freezener	0-9	---	---	20-27	1.20-1.30	0.6-2	0.13-0.16	0.0-2.9	2.0-4.0	.20	.28	5	7	38
	9-18	---	---	27-45	1.20-1.30	0.6-2	0.18-0.21	0.0-2.9	1.0-3.0	.28	.28			
	18-60	---	---	35-50	1.20-1.40	0.2-0.6	0.13-0.16	3.0-5.9	0.5-1.0	.28	.37			
Geppert	0-13	---	---	18-27	1.35-1.50	0.6-2	0.09-0.12	0.0-2.9	2.0-4.0	.10	.37	3	8	0
	13-30	---	---	20-35	1.30-1.40	0.6-2	0.04-0.07	0.0-2.9	0.5-2.0	.10	.37			
	30-40	---	---	---	---	---	---	---	---	---	---			
111G:														
Mcmullin	0-7	---	---	15-25	1.35-1.55	0.6-2	0.10-0.15	0.0-2.9	1.0-3.0	.17	.20	1	7	38
	7-17	---	---	20-35	1.30-1.50	0.6-2	0.10-0.17	0.0-2.9	0.5-1.0	.20	.37			
	17-21	---	---	---	---	---	---	---	---	---	---			
Mcnull	0-6	---	---	20-27	1.35-1.50	0.6-2	0.12-0.16	0.0-2.9	2.0-7.0	.17	.24	3	7	38
	6-32	---	---	35-50	1.25-1.40	0.06-0.2	0.10-0.18	6.0-8.9	0.5-2.0	.17	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			
113E:														
Mcmullin	0-7	---	---	15-25	1.35-1.55	0.6-2	0.10-0.15	0.0-2.9	1.0-3.0	.17	.20	1	7	38
	7-17	---	---	20-35	1.30-1.50	0.6-2	0.10-0.17	0.0-2.9	0.5-1.0	.20	.37			
	17-21	---	---	---	---	---	---	---	---	---	---			
Rock Outcrop	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table J1b. - Physical Properties of the Soils - Continued

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Symbol and Soil Name	Depth	Sand	Silt	Clay	Moist Bulk Density	Permeability (Ksat)	Available Water Capacity	Linear Extensibility	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/Hr	In/In	Pct	Pct					
113E:														
113G:														
Mcmullin	0-7	---	---	15-25	1.35-1.55	0.6-2	0.10-0.15	0.0-2.9	1.0-3.0	.17	.20	1	7	38
	7-17	---	---	20-35	1.30-1.50	0.6-2	0.10-0.17	0.0-2.9	0.5-1.0	.20	.37			
	17-21	---	---	---	---	---	---	---	---	---	---			
Rock Outcrop	---	---	---	---	---	---	---	---	---	---	---	---	---	---
114E:														
Mcnull	0-6	---	---	20-27	1.35-1.50	0.6-2	0.14-0.18	0.0-2.9	2.0-7.0	.24	.24	3	6	48
	6-32	---	---	35-50	1.25-1.40	0.06-0.2	0.10-0.18	6.0-8.9	0.5-2.0	.17	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			
114G:														
Mcnull	0-6	---	---	20-27	1.35-1.50	0.6-2	0.14-0.18	0.0-2.9	2.0-7.0	.24	.24	3	6	48
	6-32	---	---	35-50	1.25-1.40	0.06-0.2	0.10-0.18	6.0-8.9	0.5-2.0	.17	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			
115E:														
Mcnull	0-6	---	---	20-27	1.35-1.50	0.6-2	0.12-0.16	0.0-2.9	2.0-7.0	.17	.24	3	7	38
	6-32	---	---	35-50	1.25-1.40	0.06-0.2	0.10-0.18	6.0-8.9	0.5-2.0	.17	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			
115G:														
Mcnull	0-6	---	---	20-27	1.35-1.50	0.6-2	0.12-0.16	0.0-2.9	2.0-7.0	.17	.24	3	7	38
	6-32	---	---	35-50	1.25-1.40	0.06-0.2	0.10-0.18	6.0-8.9	0.5-2.0	.17	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			
116E:														
Mcnull	0-6	---	---	20-27	1.35-1.50	0.6-2	0.12-0.16	0.0-2.9	2.0-7.0	.17	.24	3	7	38
	6-32	---	---	35-50	1.25-1.40	0.06-0.2	0.10-0.18	6.0-8.9	0.5-2.0	.17	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			

Table J1b. - Physical Properties of the Soils - Continued

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Symbol and Soil Name	Depth	Sand	Silt	Clay	Moist Bulk Density	Permeability (Ksat)	Available Water Capacity	Linear Extensibility	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/Hr	In/In	Pct	Pct					
116E:														
Mcmullin	0-7	---	---	15-25	1.35-1.55	0.6-2	0.10-0.15	0.0-2.9	1.0-3.0	.17	.20	1	7	38
	7-17	---	---	20-35	1.30-1.50	0.6-2	0.10-0.17	0.0-2.9	0.5-1.0	.20	.37			
	17-21	---	---	---	---	---	---	---	---	---	---			
116G:														
Mcnull	0-6	---	---	20-27	1.35-1.50	0.6-2	0.12-0.16	0.0-2.9	2.0-7.0	.17	.24	3	7	38
	6-32	---	---	35-50	1.25-1.40	0.06-0.2	0.10-0.18	6.0-8.9	0.5-2.0	.17	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			
Mcmullin	0-7	---	---	15-25	1.35-1.55	0.6-2	0.10-0.15	0.0-2.9	1.0-3.0	.17	.20	1	7	38
	7-17	---	---	20-35	1.30-1.50	0.6-2	0.10-0.17	0.0-2.9	0.5-1.0	.20	.37			
	17-21	---	---	---	---	---	---	---	---	---	---			
117G:														
Mcnull	0-6	---	---	20-27	1.35-1.50	0.6-2	0.14-0.18	0.0-2.9	2.0-7.0	.24	.24	3	6	48
	6-32	---	---	35-50	1.25-1.40	0.06-0.2	0.10-0.18	6.0-8.9	0.5-2.0	.17	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			
Mcmullin	0-7	---	---	15-25	1.35-1.55	0.6-2	0.10-0.15	0.0-2.9	1.0-3.0	.17	.20	1	7	38
	7-17	---	---	20-35	1.30-1.50	0.6-2	0.10-0.17	0.0-2.9	0.5-1.0	.20	.37			
	17-21	---	---	---	---	---	---	---	---	---	---			
118E:														
Mcnull	0-6	---	---	20-27	1.35-1.50	0.6-2	0.12-0.16	0.0-2.9	2.0-7.0	.17	.24	3	7	38
	6-32	---	---	35-50	1.25-1.40	0.06-0.2	0.10-0.18	6.0-8.9	0.5-2.0	.17	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			
Medco	0-7	---	---	27-35	1.30-1.40	0.2-0.6	0.14-0.18	3.0-5.9	2.0-7.0	.10	.32	3	8	0
	7-12	---	---	30-40	1.30-1.40	0.06-0.2	0.15-0.19	3.0-5.9	0.5-2.0	.10	.32			
	12-30	---	---	50-60	1.20-1.30	0.001-0.06	0.11-0.15	6.0-8.9	0.0-0.5	.15	.32			
	30-40	---	---	---	---	---	---	---	---	---	---			

Table J1b. - Physical Properties of the Soils - Continued

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Symbol and Soil Name	Depth	Sand	Silt	Clay	Moist Bulk Density	Permeability (Ksat)	Available Water Capacity	Linear Extensibility	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/Hr	In/In	Pct	Pct					
118E:														
119F:														
Mcnull	0-6	---	---	20-27	1.35-1.50	0.6-2	0.14-0.18	0.0-2.9	2.0-7.0	.24	.24	3	6	48
	6-32	---	---	35-50	1.25-1.40	0.06-0.2	0.10-0.18	6.0-8.9	0.5-2.0	.17	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			
Medco	0-7	---	---	27-35	1.30-1.40	0.2-0.6	0.14-0.18	3.0-5.9	2.0-7.0	.24	.28	3	7	38
	7-13	---	---	30-40	1.30-1.40	0.06-0.2	0.15-0.19	3.0-5.9	0.5-2.0	.24	.28			
	13-35	---	---	50-60	1.20-1.30	0.001-0.06	0.11-0.15	6.0-8.9	0.0-0.5	.15	.32			
	35-45	---	---	---	---	---	---	---	---	---	---			
124F:														
Medco	0-7	---	---	27-35	1.30-1.40	0.2-0.6	0.17-0.20	3.0-5.9	2.0-7.0	.28	.28	3	6	48
	7-13	---	---	30-40	1.30-1.40	0.06-0.2	0.15-0.19	3.0-5.9	0.5-2.0	.24	.28			
	13-35	---	---	50-60	1.20-1.30	0.001-0.06	0.11-0.15	6.0-8.9	0.0-0.5	.15	.32			
	35-45	---	---	---	---	---	---	---	---	---	---			
125F:														
Medco	0-7	---	---	27-35	1.30-1.40	0.2-0.6	0.14-0.18	3.0-5.9	2.0-7.0	.10	.32	3	8	0
	7-12	---	---	30-40	1.30-1.40	0.06-0.2	0.15-0.19	3.0-5.9	0.5-2.0	.10	.32			
	12-30	---	---	50-60	1.20-1.30	0.001-0.06	0.11-0.15	6.0-8.9	0.0-0.5	.15	.32			
	30-40	---	---	---	---	---	---	---	---	---	---			
Mcmullin	0-7	---	---	15-25	1.35-1.55	0.6-2	0.10-0.15	0.0-2.9	1.0-3.0	.17	.20	1	7	38
	7-17	---	---	20-35	1.30-1.50	0.6-2	0.10-0.17	0.0-2.9	0.5-1.0	.20	.37			
	17-21	---	---	---	---	---	---	---	---	---	---			
126F:														
Medco	0-7	---	---	27-35	1.30-1.40	0.2-0.6	0.14-0.18	3.0-5.9	2.0-7.0	.10	.32	3	8	0
	7-12	---	---	30-40	1.30-1.40	0.06-0.2	0.15-0.19	3.0-5.9	0.5-2.0	.10	.32			
	12-30	---	---	50-60	1.20-1.30	0.001-0.06	0.11-0.15	6.0-8.9	0.0-0.5	.15	.32			
	30-40	---	---	---	---	---	---	---	---	---	---			

Table J1b. - Physical Properties of the Soils - Continued

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Symbol and Soil Name	Depth	Sand	Silt	Clay	Moist Bulk Density	Permeability (Ksat)	Available Water Capacity	Linear Extensibility	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/Hr	In/In	Pct	Pct					
126F:														
Mcnull	0-6	---	---	20-27	1.35-1.50	0.6-2	0.14-0.18	0.0-2.9	2.0-7.0	.24	.24	3	6	48
	6-32	---	---	35-50	1.25-1.40	0.06-0.2	0.10-0.18	6.0-8.9	0.5-2.0	.17	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			
163A:														
Sevenoaks	0-14	---	---	0-5	1.45-1.75	2-6	0.12-0.16	0.0-2.9	1.0-3.0	.05	.05	5	2	134
	14-60	---	---	0-5	1.50-1.80	6-20	0.06-0.12	0.0-2.9	0.0-0.5	.02	.05			
183E:														
Straight	0-9	---	---	18-27	1.10-1.40	0.6-2	0.03-0.06	0.0-2.9	2.0-4.0	.05	.37	3	8	0
	9-35	---	---	18-30	1.10-1.40	0.6-2	0.06-0.10	0.0-2.9	0.5-1.0	.10	.37			
	35-45	---	---	---	---	---	---	---	---	---	---			
184G:														
Straight	0-9	---	---	18-27	1.10-1.40	0.6-2	0.03-0.06	0.0-2.9	2.0-4.0	.05	.37	3	8	0
	9-35	---	---	18-30	1.10-1.40	0.6-2	0.06-0.10	0.0-2.9	0.5-1.0	.10	.37			
	35-45	---	---	---	---	---	---	---	---	---	---			
Shippa	0-4	---	---	18-27	1.25-1.40	2-6	0.05-0.07	0.0-2.9	2.0-4.0	.05	.24	1	8	0
	4-16	---	---	18-27	1.25-1.40	2-6	0.05-0.09	0.0-2.9	0.0-0.5	.10	.28			
	16-26	---	---	---	---	---	---	---	---	---	---			
185G:														
Straight	0-9	---	---	18-27	1.10-1.40	0.6-2	0.03-0.06	0.0-2.9	2.0-4.0	.05	.37	3	8	0
	9-35	---	---	18-30	1.10-1.40	0.6-2	0.06-0.10	0.0-2.9	0.5-1.0	.10	.37			
	35-45	---	---	---	---	---	---	---	---	---	---			
Shippa	0-4	---	---	18-27	1.25-1.40	2-6	0.05-0.07	0.0-2.9	2.0-4.0	.05	.24	1	8	0
	4-16	---	---	18-27	1.25-1.40	2-6	0.05-0.09	0.0-2.9	0.0-0.5	.10	.28			
	16-26	---	---	---	---	---	---	---	---	---	---			

Table J1b. - Physical Properties of the Soils - Continued

Jackson County Area, Oregon, Parts Of Jackson And Klamath Counties

Map Symbol and Soil Name	Depth	Sand	Silt	Clay	Moist Bulk Density	Permeability (Ksat)	Available Water Capacity	Linear Extensibility	Organic Matter	Erosion Factors			Wind Erodibility Group	Wind Erodibility Index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/Hr	In/In	Pct	Pct					
187A:														
Takilma	0-6	---	---	15-23	1.35-1.50	2-6	0.09-0.14	0.0-2.9	2.0-4.0	.17	.28	5	7	38
	6-15	---	---	18-30	1.30-1.50	2-6	0.06-0.11	0.0-2.9	1.0-3.0	.15	.28			
	15-60	---	---	10-18	1.35-1.60	6-20	0.03-0.05	0.0-2.9	0.2-1.0	.10	.20			

Mass Wasting

Slope Stability Analysis – Shallow Transnational Slides (Shallow Rapid Slides)

1. Planar and Convex Slopes

The analysis considered average present conditions after fire (Burned Condition) and prior to fire (Unburned Condition). The results of the analysis - factor of safety (FS) and probability of failure (Pf) - are as follows:

Table H-1. Slope Stability of Planar and Convex Slopes

	Unburned Condition (forested)		Burned Condition (denuded)	
Slope (%)	FS	Pf (%)	FS	Pf (%)
65 – 70	1.25	0	1.26	0
70 - 75	1.18	0.1	1.20	0.1
75 – 80	1.13	7	1.08	20
80 – 85	1.08	24	1.03	42
85 – 90	1.03	42	0.99	60

2. Concave and Draw Slopes

The analysis considered average present conditions after fire (Burned Condition) and prior to fire - (Unburned Condition). The results of the analysis - factor of safety (FS) and probability of failure (Pf) - are as follows:

Table H-2. Slope Stability of Concave and Draw Slopes

	Unburned Condition (forested)		Burned Condition (denuded)	
Slope (%)	FS	Pf (%)	FS	Pf (%)
50 – 55	1.29	0	1.18	0.7
55 – 60	1.19	0.2	1.09	10
60 – 65	1.11	5.5	1.01	41
65 – 70	1.04	26	0.95	80
70 – 75	0.98	60	0.90	97

Notes:

- The above analyses consider **average conditions** of the topography and geomorphology. Micro-site conditions (i.e., spring areas, wetlands, areas with internal piping, talus areas, shallow and exposed bedrock areas, etc.) may exist that could differ from these averages.
- Factor of Safety (FS) is the ratio between resisting and driving forces acting on a solid body. The Probability of Failure (Pf) is the relative frequency of factors of safety less than one.
- Slopes over 90 percent may in fact have higher factors of safety (be safer) than indicated above. The depth of soil is less than assumed in the analyses and bedrock outcrops are frequently encountered.
- High ground water conditions (a major storm event) were assumed in the analyses.

- The determination about acceptable risk related to harvesting steep slopes should be made based on consideration of probability of failure (Pf) and consequences of such event occurring. Unacceptable consequences for this project would be initiation of debris torrent, deposition of landslide material onto adjacent private land, and deposition of land slide material into perennial streams. For the substantial, adverse consequences situations, harvesting of trees on slopes with probability of failure (Pf) greater than 20 percent should not be permitted without more detailed, site-specific analysis, i.e., convex and planar slopes over 85 percent, and concave slopes greater than 75 percent. For low consequence slopes, an acceptable probability of failure may be as high as 33 percent, or 1 in 3.

The above analysis indicates the following:

1. Planar and convex slopes can be harvested with minimum risk of triggering landslides.
2. Concave slopes (draws, hollows) have higher, but acceptable risk of slope instabilities.
3. Depending on the level of acceptable risk, areas that exceed these thresholds should not be harvested. In draws, the risk of mass wasting will exceed 10 percent for slopes steeper than 75 percent.
4. When areas are found during field preparations of the units for harvest where obvious instabilities exist and the consequences of failure are high, these micro-sites should be excluded from harvesting.

Debris Torrent Analysis – Mass Movement in Steep Stream Channels

The analysis is based on an analytical method outlined in …. (Ref.) It takes into account the size of streambed material, stream gradient, and quantity of flow within the channels. The analysis considers pre-fire, and short-term and long-term post-fire changes in stream flows. Three states of the channel are contemplated: stable streambed, transport of surface streambed material, and torrent (massive movement of the entire stream bed strata).

Table H-3. Mass Movement in Stream Channels, Pre- and Post-Fire

Channel Gradient	Pre-fire Condition	Post-fire Condition (< 5 years)	Post-fire Condition (> 5 years)
10%	stable	transport	stable
20%	stable	transport	transport
30%	stable/transport	transport/torrent	transport
40%	transport	torrent	transport

Notes:

- The above analyses consider **average conditions** of the topography and geomorphology. Micro-site conditions may exist that could differ from these averages.
- Assumptions made in the above analysis: average substrate material size, D50 is 3”, post-fire channel flow increases are approximately 150 percent.

Slope Stability Analysis – Road Fill Failures

The analysis considered average conditions of a road stream crossing placed on varying stream gradient. The results of the analysis - fill height, fill volume, and factor of safety (FS) - are as follows:

Table H-4. Conditions of Road Stream Crossings

Slope (%)	Fill Height (ft)	Fill Volume (yd^3)	Factor of Safety (FS)
10	5	150	1.67
20	8	300	1.42
30	9	450	1.21
40	11	700	1.12
50	13	1,000	0.99

Notes:

- The above analyses consider **average conditions** of the topography and geomorphology. Micro-site conditions (fill material, condition of drainage structure) may exist that could differ from these averages.
- Factor of Safety (FS) is the ratio between resisting and driving forces acting on a solid body. A FS greater than 1.2 is considered safe for a non-critical road structure. The probability of failure is less than 10 percent. A Factor of Safety less than 1.1 is unacceptable. The probability of failure is high (25 percent or greater).